HORMONE REPLACEMENT
A Cause of Cardiovascular Disease

The overzealous prescribing of synthetic hormones to menopausal women to protect them against cardiovascular disease is based on faulty data and has caused a rise in heart attack and stroke incidence in these women.

by Sherrill Sellman © 1998

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Medical science has always blamed a woman's physiology for many of her physical and mental health problems. The 'science' of gynaecology had its beginnings in the mid-Victorian era when attitudes to women were at their most bizarre. For instance, it was once thought that the intellectual development of a woman reduced her reproductive abilities, which was the justification for barring her from access to higher education. The uterus was blamed for many a Victorian woman's medical condition, such as "simple hysterical mania", nymphomania, depression and even the "uncontrollable urge to waltz", which could easily be remedied with a hysterectomy. Clitoridectomies (the surgical removal of the clitoris) were also a popular practice by Victorian doctors to prevent impairment of health, headaches, attacks of hysteria as well as an "undisciplined mind".

In the early 1900s, "ovaromania", a form of insanity, was a popular disease of women. It was primarily diagnosed by the presenting symptoms of "unhappiness" or "hysteria" and was often used to label women who were unwilling to carry out household duties or whose husbands found them difficult to control. The solution was simple: removal of the ovaries. By 1906, 150,000 American women had been subjected to this useless form of female castration. The average age was thirty.[1]

The pathologising of women's natural cycles continued throughout this century. Until the early 1960s, the menopausal woman was diagnosed as suffering from a psychological condition which necessitated treatment with tranquillisers, antidepressants and even institutionalisation. With the arrival of synthetic hormones, menopause moved into the realm of medicine by being redefined as an "oestrogen deficiency" disease. Oestrogen became the drug of choice recommended to free the menopausal women from the "horror of this living decay" that threatened to cause her extreme suffering and incapacity.[2]

Through drug companies' massive advertising campaigns which targeted both medical professionals as well as the public, hormone replacement therapy (HRT, the combination of synthetic oestrogen and progestin) has triumphed as the primary drug treatment for menopausal women. It is recommended not only for alleviating menopausal symptoms but also as a preventive treatment for osteoporosis. Heart disease has now also been added to HRT's ever-expanding role as a miraculous cure-all. Unfortunately, hormone replacement therapy is a dangerous and potentially life-threatening drug treatment. To date, there are no long-term studies demonstrating the absolute safety or even rationales for its many uses. Like the other past "treatments", it leaves in its wake many physically and psychologically maimed women.

MENOPAUSE AND CARDIOVASCULAR DISEASE

Oestrogen is now being touted by mainstream medicine as a great preventative of cardiovascular disease. It is a major reason why an otherwise healthy menopausal women is prescribed HRT. To understand the issues at hand, it is first necessary to have a better understanding about cardiovascular disease.

Cardiovascular disease includes both heart disease and stroke. Stroke, like heart disease, is a vascular disease, a disease of the blood vessels. In both cases, the blood vessels become narrow either through spasm or through atherosclerosis, the narrowing of the arteries that feed the heart; therefore, not enough blood gets to a critical place. In the case of heart disease it is the heart, and with strokes it is the brain. Cardiovascular disease also encompasses high blood pressure and coronary artery disease.

The argument is made that deaths due to heart disease in women are very uncommon prior to menopause, but that after menopause deaths increase sharply. Oestrogen deficiency is blamed for this increase. It is therefore recommended that all menopausal women should now be placed on HRT as a preventive treatment, whether or not they have a history of heart disease. Menopause itself is thus perceived as a dangerous risk factor for the increasing incidence of heart disease. This neat argument has women clamouring for oestrogen supplementation. But is it true?

Professor Hugh Tunstall-Pedoe, a renowned cardiovascular epidemiologist at the University of Dundee, Scotland, says emphatically, "Absolutely not". According to him, it is a myth that the menopause is bad for women's hearts. "It is unarguable that risk of myocardial infarction (heart attacks) and coronary death is lower in women than in men in middle ages. However, there is a myth that risk in women is held low only until the menopause, around age 50 years, when it rebounds, equalling and later surpassing that in men." In an article published in the *Lancet*, Professor Tunstall-Pedoe writes that the increased risk of coronary heart disease (CHD) in women with premature or artificial menopause, lipid changes at menopause, and observational studies suggesting a protective effect of HRT, all contribute to the myth.[3]

The myth implies that coronary deaths in women should accelerate more rapidly after the age of 50 and the rise should be specific to heart disease. However, Professor Tunstall-Pedoe's analysis, comparing the rate of CHD deaths per million women with the rate for men, shows women's death rates do not surge after menopause and, in fact, never catch up to those of men. "There is no rebound acceleration in risk in women at or after the age of 50 years," he says.

Professor Tunstall-Pedoe's research reveals that the reason the numbers of elderly women dying from CHD are greater than the numbers of elderly men dying from the disease is simply that many more women than men live to be elderly.

"Estrogen deficiency at menopause is a myth created by drug companies to justify selling supplemental estrogen."

Dr John Lee
The John R. Lee Medical Letter
August 1998, p. 3

Professor Valerie Beral, a leading epidemiologist and head of the Imperial Cancer Research Fund at Oxford University, concurs that there is no evidence for a change in CHD pattern around menopause, but the idea is nonetheless widespread. "It's sort of grown up as a myth along with the idea that therefore giving HRT will protect you...the idea that it's [HRT] going to protect women in the long term from coronary disease, which is the main reason it is often given—there is really no basis for that."[4]

Dr Susan Love—breast surgeon, an adjunct associate professor of clinical surgery at UCLA, director of the Santa Barbara Breast Cancer Institute and a leading author—agrees. "Heart disease is not a symptom of menopause. Heart disease is heart disease. It is more common in women than in premenopausal women but that's because postmenopausal women are older than premenopausal women. It's like gray: you're more likely to have gray hair after menopause than before it, but menopause doesn't cause gray hair—rather, they both tend to happen in later life.

"The standard line has always been that women are protected from heart disease as long as their bodies make oestrogen, and then after menopause they lose that protection and rates of heart disease for men and women become equal. But in fact, the rates never become equal. In this country [USA], women in their sixties and seventies have 45 per cent less heart disease than men in the same age bracket. Women develop heart disease much later than men—seven or eight years later. Women's risk rises continuously as they get older but there's no sudden increase with menopause. We never catch up."[5]

OESTROGEN DEFICIENCY AND HEART DISEASE

The corollary to the menopause/heart disease myth is that there is a reduction of oestrogen at menopause. In fact, it is often erroneously stated that the ovaries fail at menopause, resulting in an oestrogen deficiency. This oestrogen deficiency is then attributed to a higher incidence of heart disease in the postmenopausal woman. While women have been led to believe that this lack of oestrogen during the menopausal years is the cause of a variety of symptoms and potentially debilitating conditions, there is a growing body of evidence that disputes this belief.

Dr Jerilynn Prior, a physician and professor of endocrinology at the University of Vancouver in British Columbia, points out that, to date, there exists no study proving the relationship between oestrogen deficiency and menopausal symptoms and related diseases. "Instead," says Dr Prior, "a notion has been put forward that since oestrogen levels go down, this is the most important change and explains all the things that may or may not be related to menopause. So oestrogen treatment at this stage of our understanding is premature. This is a kind of backwards science. It leads to ridiculous ideas—like calling a headache an aspirin deficiency disease."[6]

According to Dr Susan Love: "Making eggs isn't the ovaries' only function any more than reproduction is a woman's whole function. The ovary is more than just an egg sac. It's an endocrine organ—an organ that produces hormones. And it produces hormones before, during and after menopause. With menopause the ovary goes through a shift from a follicle-rich producer of estrogen and progesterone into a stromal-rich producer of estrogen and androgen. Stroma is the glue that holds all the eggs together. In the postmenopausal woman the ovary responds with increased production of testosterone as well as continued lower levels of the estrogens, estrone and estradiol, and the estrogen precursor, androstenedione."[7]

So, contrary to popular belief, the ovaries do not shrivel up or cease functioning at menopause. Ovaries continue to produce hormones, including oestrogens, throughout the life cycle, though the amounts they produce change depending on a woman's age.

It is an erroneous belief that the ovaries cease producing oestrogen at menopause. Since the menopausal woman is no longer in her reproductive cycle, it is not necessary for the body to produce the high levels of oestrogen required to mature an egg. Therefore, as women age, the ovaries grow smaller, as Nature intended. However, the part of the ovary that shrinks is known as the 'theca', the outermost covering where the eggs grow and develop. The innermost part of the ovary, known as the 'inner stroma', actually becomes active for the first time in a woman's life. With exquisite timing, one function starts up as the other winds down.

Dr John Lee, physician, author and critic of hormone replacement therapy, explains: "Estrogen levels decline at menopause, but not to zero. Estradiol falls generally to about 15 per cent of pre-menopausal levels and estrone falls only to 40–50 per cent of

pre-menopausal levels. Adrenostenedione, a hormone made in the ovary long after menopause, is converted in body fat into estrone which is partially converted in the gut and liver into estradiol. Did Mother Nature intend that women should become estrogen deficient after menopause? I think not. Estrogen deficiency at menopause is a myth created by drug companies to justify selling supplemental estrogen."[8]

Nature designed the postmenopausal woman to produce adequate levels of oestrogen for that stage of life. Thus, lower levels of oestrogen at menopause are a natural adjustment to that stage of life. It does not mean a pathology of "oestrogen deficiency".

It is interesting to note that the *Consumer Guide to Prescription Drugs* warns that women should not take oestrogens or progestins if they have current or past clotting disorders, thrombosis, stroke history, cerebrovascular or cardiovascular disorders, high lipoproteins (a specific type of blood fats), severe uncontrolled hypertension or lipid metabolism disorders.[9]

The packet insert of the combined oestrogen and progestin pill, Prempro, warns: "...taking estrogen may increase the risk of blood clots. These clots can cause a stroke, heart attack or pulmonary embolism, any of which may cause death or serious long-term disability."

And these drugs are being prescribed to prevent heart disease? One does not need to have a medical degree to realise that something is very seriously wrong with a theory that endorses HRT as a treatment for heart disease.

Despite the faulty nature of the Nurses Health Study, it has become the cornerstone of a well-orchestrated marketing campaign to convince healthy women that HRT could prevent heart disease!

HORMONE REPLACEMENT: THEORY MASQUERADING AS FACT

The theory of hormone replacement therapy as a protection against heart disease emerged in 1991 with findings from a large prospective study, the Nurses Health Study, conducted by a team from Harvard. This study was highly influential in establishing a positive oestrogen/cardiovascular link. Its data came from questionnaires mailed every two years from 1976 to 1986 to 48,470 female nurses.[10]

The results from the study showed that women who had taken oestrogen postmenopausally experienced only half the risk of coronary heart disease than those who hadn't.

Unfortunately, this study was later found to be seriously flawed and the statistics manipulated. Since the study was observational, it was undetermined whether it was oestrogen that actually lowered the risk or whether women with generally good health were more likely to be on oestrogen in the first place.

As it turned out, the women who took oestrogen were of a higher socio-economic status, better educated, thinner, and more likely to be non-smokers. These women also tended to have more regular consultations with their doctors and therefore were considered more likely to have continuing preventive care.

On the other hand, the nurses in this study who were not using hormones were more likely to be diabetic, to be cigarette smokers, to have more body fat and to do less exercise. All of these are risk factors for heart disease.

The researchers also seemed to overlook (or ignore) a rather startling finding: the oestrogen users had a 50 per cent higher incidence of stroke death![11]

Again, the pharmaceutical companies admitted in the Prempro packet insert that: "...some research has shown that estrogens without progestins may protect women against developing heart disease. However, this is not certain. The protection shown may have been caused by the characteristics of the estrogen-treated women, and not by the estrogen treatment itself. In general, women treated were slimmer, more physically active and were less likely to have diabetes than untreated women."

Despite the faulty nature of the Nurses Health Study, it has become the cornerstone of a well-orchestrated marketing campaign to convince healthy women that HRT could prevent heart disease! As is the custom of mainstream medicine, doctors have been bombarded with advertisements for the claimed benefits of oestrogen—with the stroke risks completely ignored. Thus, based on an unsubstantiated theory and poorly designed studies, there is a huge push by most mainstream doctors to have their all their menopausal and postmenopausal patients take HRT.

The Framingham Heart Study, the only ongoing, long-term epidemiological study in the United States, conducted on 240,000 women, reported that the postmenopausal oestrogen-users had no benefit in terms of heart disease but a 50 per cent increased incidence of strokes. Oestrogen users had a higher risk of vascular disease, which was independent of any other known risks.[12]

However, such serious questions about oestrogen's efficacy and safety were totally ignored as the pharmaceutical companies, realising the potential of another huge market, were extremely eager to add another string to the HRT bow.

To test the oestrogen/cardiovascular relationship further, in 1995 Professor Elizabeth Barrett-Connor, from the University of California, conducted studies to see if levels of hormones in the blood affected heart disease. She measured testosterone, oestrone and androstenedione. She found no relationship between the blood levels of these sex hormones and heart disease in postmenopausal women.[13] Nor did she find any relationship between blood levels of oestrogen and cholesterol levels, LDL and triglycerides. Other studies have confirmed this finding. Although obesity increases blood levels of oestrogen, it certainly doesn't decrease heart disease. On the contrary, obesity is one of the greatest contributors to heart disease. So, once again, serious doubt has been cast on oestrogen's cardiovascular benefits.

In the pursuit of establishing a definite beneficial link between HRT and the heart, Wyeth-Ayerst, the pharmaceutical company manufacturing Premarin, funded the US$40 million study, called the Heart and Estrogen-Progestin Study (HERS), which was to investigate Premarin's effect for women with pre-existing coronary artery disease. It was the first randomised controlled trial considered large enough to examine the effects of HRT on cardiovascular outcomes. The study enrolled 2,763 postmenopausal women (average age, 67) with a previous history of a heart attack,

heart surgery including bypass, angioplasty or narrowing of the arteries. Half of the group took 0.635 mg of Premarin and 2.5 mg of Provera daily; the other half took a placebo. They were followed for a five-year period.[14]

The findings from this study, which were released in August 1998, sent shock waves throughout the medical community worldwide. For the women taking hormones, the risk of myocardial infarction increased by about 50 per cent the first year and then decreased by the fourth and fifth years, leaving "no overall benefit". In addition, there was a threefold increase in venous thromboembolic events (blood clots in the legs and lungs) and a significant increase in gall bladder disease in the user group.

Other surprising findings revealed that although the 'good' cholesterol increased by 10 per cent and the 'bad' cholesterol decreased by 10 per cent, this change had virtually no protective effect. It brought to light that the great emphasis placed on cholesterol levels in preventing heart attacks may indeed be a red herring. More and more studies are emerging that support this belief.

Professor Barrett-Connor commented on the study: "I wouldn't be putting women with heart disease on HRT to prevent a heart attack because there is an increased risk in people with heart disease. This excess of heart disease was really surprising."[15]

The results of this study stopped the use of HRT for secondary prevention of heart disease dead in its tracks. But what about its effectiveness for primary prevention? Does it really have any protective benefits against cardiovascular disease? While all the focus has been on oestrogen, what about the effect when it is combined with a progestin? (Oestrogen is not usually prescribed alone to a woman with an intact uterus because of its known carcinogenic effect on the uterus.)

PROGESTINS: A GUILTY PARTY

The claims that oestrogen therapy can prevent heart disease are problematic. Moreover, women's natural oestrogen levels seem to have little or no effect on their rate of heart disease.

Dr Susan Love states: "In osteoporosis, breast cancer and endometrial cancer, factors associated with the body's own estrogens correlate with the risk of the disease. For example, the larger your lifetime supply of oestrogen—whether because your started menstruating early, took certain medications or never became pregnant—the greater your risk of breast cancer and the lower your risk of osteoporosis...but there is no clear relationship between heart disease and your body's own estrogen. The amount of estrogen your body makes over your lifetime doesn't appear to have any effect on your risk of heart disease."[16]

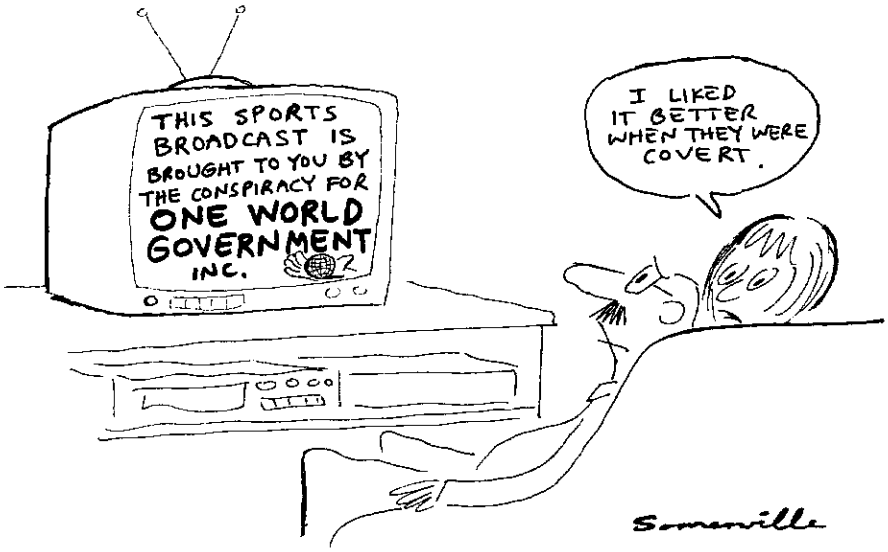
However, it does seem that supplemental oestrogen has a beneficial effect on cholesterol by increasing the 'good' HDL (high-density lipoproteins) and decreasing the 'bad' LDL (low-density lipoproteins). It is believed that this can have a marked effect on subsequent heart disease. But, there is more to heart disease than just cholesterol levels.

Dr John Lee comments: "Yes, estrogen does lower total cholesterol and raise the good HDL, but at what cost? This is only one risk factor for heart disease, and a questionable one at that. Given the risks and side-effects of estrogen, wouldn't it be more sensible to improve cholesterol levels through well-proven and safer routes through a good diet, exercise and antioxidant supplements?"[17]

Since it is well researched that "unopposed" oestrogen given to a woman with an intact uterus will put her at high risk of endometrial cancer, hormone treatments now include a synthetic progestin, such as Provera, as well as oestrogen. What are the effects on the heart by including a progestin?

The first randomised controlled study to investigate oestrogen, progestin and progesterone therapy and its effects on lipids in women was the three-year PEPI (postmenopausal estrogen/progestin interventions) trial, the results of which were published in 1995.[18] It included 875 healthy, naturally or surgically postmenopausal women, aged 45 to 64 years old, who were randomly asked to take one of four hormone replacement programs for three years. They included a placebo group, an unopposed oestrogen (Premarin) group, a Premarin and a synthetic progestin (Provera) group, and a Premarin and a natural (oral micronised) progesterone group. (A progestin is a drug that has some similar characteristics as the natural progesterone the body makes but is not the exact molecular match, thus causing many side-effects. Oral micronised natural progesterone is formulated in a laboratory to be the exact molecular match as the progesterone made by the body.)

Since the study was only conducted over three years, the researchers couldn't study the effects of oestrogen/progesterone on heart attacks, so they focused on changes in HDL levels. The study found that the most positive results (the highest levels of HDL) occurred in the oestrogen-only group, with a 0.14 increase in HDL. The group that most closely followed was the oestrogen plus natural progesterone group, with a 0.11 increase in HDL. It was found that adding Provera to Premarin counteracted some of the beneficial effects of Premarin on cholesterol (a 0.03 increase in HDL).



This study clearly showed that natural progesterone was much more effective in maintaining HDL levels than the synthetic progestins which actually lowered the HDL quite significantly. It is interesting to note that the researchers buried their recommendation for natural progesterone in the very last sentence of their paper.[19]

In an interview published on the Internet by the American Medical Association, the PEPI trial's principal investigator Dr Elizabeth Barrett-Connor remarked: "If I

were treating a woman primarily because she was worried about heart disease or because she had abnormal blood fats and low HDL cholesterol, I would probably see if she wanted to take micronised (natural) progesterone. I was quite impressed with the better effect."[20]

Unfortunately, the major finding that natural progesterone played a most beneficial role on HDL levels never made if off the pages of the *Journal of the American Medical Association*. Instead, the first line of the editorial accompanying the PEPI study read: "Estrogen is good for the heart." Once again, the safer and more natural option was totally ignored. According to the president of the American Heart Association, a woman who followed Dr Barrett-Connor's advice about using a natural progesterone might reduce her risk of heart disease by 12 per cent.[21]

It is important to note that the beneficial effects of natural progesterone in the PEPI study occurred when it was used with an oestrogen as part of a hormone replacement therapy. While natural progesterone was never tested on its own, there is a growing body of evidence that suggests it is just as effective as oestrogen in increasing HDL levels, again raising grave concerns that oestrogen's therapeutic effects have been overrated. In fact, it is becoming more and more obvious that the pivotal role given to oestrogen supplementation, itself, for women's hormonal and health problems has been much overrated.

The PEPI study also raised new questions about the safety of Premarin. While it raised HDL levels, five new cases of heart disease developed during the first three years of the study, only in the patients taking Premarin. This suggests at least the possibility that Premarin may actually *cause* heart disease in some postmenopausal women. Also, 10 women receiving Premarin developed blood clots; four of these cases were serious. No women in the placebo group developed blood clots.[22]

DIETARY HEART-SAVERS

- Supplements: vitamin E (can reduce the risk of heart attack by up to 70%), vitamin C and selenium, vitamins B6, B12 and folic acid, magnesium, coenzyme Q10, garlic, ginger, hawthorn, carnitine
- Consumption of fresh fruit and vegetables
- Moderate alcohol consumption
- Reduced consumption dairy products
- Reduced sugar intake (sugar is the highest dietary risk factor for heart disease for women over the age of 35 and older [*Journal of Orthomolecular Medicine*, June 1998])
- Increased consumption of essential fatty acids found in flaxseed, olive, pumpkin and fish oils, and elimination of *trans* fatty acids (as found in margarine)
- Consumption of more soy protein and less animal protein
- Increased consumption of garlic and ginger
- Increased fibre in diet

LIFESTYLE HEART-SAVERS

- Increased exercise
- Reduced obesity
- Reduced stress levels
- No smoking

More disturbing research about progestin's harmful effects on the heart continues to surface. In 1997, Dr Kent Hermsmeyer, a professor of medicine and cell developmental biology at Oregon Health Sciences University, published a groundbreaking study in *Nature Medicine* journal, showing that the synthetic progestin Provera made the muscles of the heart and coronary arteries of rhesus monkeys more reactive and prone to vasospasms. His study set out to investigate the effect of hormones on coronary artery spasms. The ovaries from 12 rhesus monkeys were removed to simulate menopause. Half were given oestrogen and the synthetic progestin, Provera, and the other half were given oestrogen and natural progesterone. Four weeks later the monkeys were injected with a drug to stimulate coronary artery spasm. The monkeys that were on Provera and oestrogen suffered from an unrelenting spasm that would have caused death if they hadn't been injected with an antispasmodic drug. The monkeys that had been treated with oestradiol and natural progesterone showed very little coronary artery spasm. The study concluded that Provera, in contrast to natural progesterone, increased the risk of coronary vasospasm.[23]

Dr Hermsmeyer later commented on the study's relevance to women: "We also didn't expect to find that progesterone alone, without added estrogen, is protective of the coronary arteries. But it is, and I believe that progesterone can be a very important part of decreasing the incidence of sudden heart death and cardiovascular disease in menopausal women. However, we hypothesise that this protection occurs optimally when the woman's body also has subphysiological levels of estrogen, and that the two hormones, progesterone and estrogen, work best together."[24]

This research was reinforced by a study conducted at Wake Forest University's Bowman's School of Medicine. Their research with heart disease and hormones in monkeys showed that Provera can "obliterate the beneficial effect of estrogen therapy on the progression of coronary artery atherosclerosis" (clogging of the arteries).[25]

Research has also been conducted on the effects of Provera with vasospasm in women. At London's National Heart and Lung Institute, Dr Peter Collins led a study using different combinations of HRT. The women were monitored while exercising on a treadmill. The study found that the women who were using natural progesterone could exercise significantly longer than the women taking Provera, who became much more fatigued due to restricted blood-flow.[26]

The results of these studies are convincing more and more doctors to re-evaluate their use of a progestin like Provera in a hormone replacement regime. Instead they are now realising that natural progesterone is a safer and more effective choice. As a result of the PEPI study, the FDA has recently approved an oral form of natural progesterone tablet called Prometrium. This is the first time that a natural progesterone product has been patented. However, a transdermal cream is still a much more effective delivery system. It is recommended to use 200 mg of Prometrium for 12 days of a woman's cycle, while only 20 mg is required for a natural progesterone cream.

WOMEN: A PROFITABLE MARKET

Women have been made the target for an aggressive marketing campaign by the pharmaceutical companies in conjunction with the medical profession to get them to use hormone replacement therapy. Reinforced by cultural myths of the ageing woman and gross misinformation about female physiology, tens of millions of HRT scripts are written each year as healthy menopausal women naively believe their doctors when they're told that HRT will protect their hearts.

Dr John Lee offers a more enlightened view: "My hypothesis is that the increased risk of cardiovascular disease now associated with menopause may not be due to relatively minor cholesterol plaque or to hormone deficiency *per se*, but to increased risk of coronary vasospasm caused by synthetic progestins, such as medroxyprogesterone acetate (Provera), used in HRT. This does not ignore the effects of aging and other factors. It points the finger at a dangerous drug.

"There's absolutely no excuse for any doctor to prescribe Provera for HRT when we have this kind of data. HRT should include small, physiologic doses of transdermal natural progesterone, which will protect against coronary vasospasm, combined with very small amounts of estrogen, when needed.

"When it comes to optimal cardiovascular health, some women may benefit from a small amount of estrogen. But it is quite probable that, for many women, postmenopausal production of estrone in fat cells may be sufficient when supplemented with natural progesterone."[27]

The huge financial investment by the pharmaceutical companies and the medical establishment to research, promote and educate the public as well as medical doctors about oestrogen's and progestin's absolutely key role in women's health has transformed an hypothesis into an unassailable fact. However, as the truth is teased out from the myths, what becomes apparent is that this widespread use of steroid supplementation in healthy women is indeed a dangerous and still unproven theory.

Combined oestrogen and progestin have over 120 possible side-effects and risks, as acknowledged by the pharmaceutical companies themselves in warnings published in the *Physicians Desk Reference*. Hopefully the HERS study was a reality check to the medical profession, reminding them that the cautions written on the packet inserts as well as in the *Reference*—stating that both oestrogen and progestin can cause strokes, blood clots, high blood pressure and thickening of the blood, which put users at serious risk of heart attacks—are not warnings of rare or infrequent events. Individually, oestrogen and progestin are potent drugs; however, when combined, their alchemy creates an even more dangerous and volatile mix.

In commenting about oestrogen, Dr Elizabeth Barrett-Connor sums it up poignantly: "No other prescription drug has been given on such a large scale to prevent disease in healthy women without proof of efficacy by a randomised clinical trial."[28]

The over-zealous prescribing of HRT to women for heart disease is based on unsubstantiated data and incomplete research. Professor Alistair MacLennon, Associate Professor of Obstetrics and Gynaecology at the University of Adelaide, Australia, so much as admitted this fact when he was quoted as saying: "It [using HRT as a cardiovascular protective agent] is a social experiment at the moment based on indirect data."[29] A social experiment? Do women really want to be the guinea pigs in yet another massive experiment, be it either social or medical, trialling a potentially debilitating and lethal drug therapy?

It is undeniable that heart disease is a major cause of death among older women. However, neither menopause nor oestrogen deficiency can be assigned the role of villain, but rather a combination of factors which include lifestyle, diet, stress, and ageing itself. It is alarming to realise that for some women the present trend to be prescribed hormone replacement therapy as either a primary or secondary treatment is, in fact, not only contributing to this disease but actually causing it. Needless to say, the consequences to women's health are devastating.

Just as the Victorian procedures that once resulted in needless suffering to so many women are now condemned as bizarre and barbaric mistakes, so, too, in the not-too-distant future, the widespread use of synthetic oestrogen and progestin will also be added to the ranks of major medical mistakes. ∞

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